REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-6 are currently pending in the present application, Claims 3, 4 and 6 having been amended by way of the present amendment. No new matter has been added.

In the outstanding Office Action, Claims 4 and 6 were rejected under 35 U.S.C. § 112, second paragraph; Claims 3-4 were rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter; Claims 1, 3, and 5 were rejected under 35 U.S.C. § 102(e) as anticipated by Sekine, et al. (U.S. Pat. No. 6,370,330, hereinafter "Sekine"); Claim 2 was indicated as allowable, and Claims 4 and 6 were indicated as being allowable if rewritten to overcome the 35 U.S.C. § 112, second paragraph, rejection, and the 35 U.S.C. § 101 rejection as to Claim 4.

As an initial matter, Applicants acknowledge with appreciation the indication of allowable subject matter in Claims 2, 4, and 6.

Regarding the 35 U.S.C. § 112, second paragraph, rejection, Claims 4 and 6 have been amended to address the rejection set forth on pages 2-3 of the Office Action. Thus, the rejection under 35 U.S.C. § 112 has been overcome.

Regarding the 35 U.S.C. § 101 rejection, Claims 3 and 4 have been amended to define statutory subject matter. Specifically, these claims recite an "image processing method ***implemented on an image capture device***," and "outputting ***to a display*** the area as an image for the image output area of the second frame." Thus, it is respectfully submitted that the statutory rejection of Claims 3 and 4 has been overcome.

Regarding the rejection of Claims 1, 3, and 5 as anticipated by Sekine, Applicants respectfully traverse the 35 U.S.C. § 102(e) rejection.

The Office Action cites "the blocks which are within the threshold" as described in col. 32, lines 41-42 of Sekine as corresponding with the claimed "motion detecting area." Further, the Office Action cites the "movement vector" in Sekine as corresponding with the claimed "motion vector."

Sekine is directed to an image shake detecting device for a video camera which detects a shaking state of either the image of a main object to be photographed or the image of the background. Sekine describes adjusting for shake compensation when a picture of a moving object is taken when a camera is fixed in position, or when it is moved to trace (track) the moving object.

As seen in Fig. 4(b) of Sekine, the camera is tracing (tracking) an object such that it is always located in the central part of the image sensing plane 100 while the object is moving. As seen in Figs. 20 to 22(c) of Sekine, the video image shake detecting device is applied to an automatic tracing (tracking) focusing device so that a tracing area for tracing a movement of an object occurring within the image plane is set. According to Sekine, movement vectors are obtained from a plurality of areas set within the image plane. Further, an optical flow is statistically processed to determine an object tracing area and an image shake detection area.

More specifically, Sekine describes that a ***motion*** picture (i.e. video) of a moving object is taken, as seen in Fig. 21(a). The movement vector obtained for the entire image plane showing any movement that takes place in every blocks is called an optical flow. Fig. 21(b) shows an optical flow obtained by accumulating the differences between the current field and an immediately preceding field for a given period of time. Fig. 21(b) illustrates what the optical flow looks like when the background movement is less than the movement of the object. Figs. 21(a) and (b) are reproduced below for the Office's convenience.

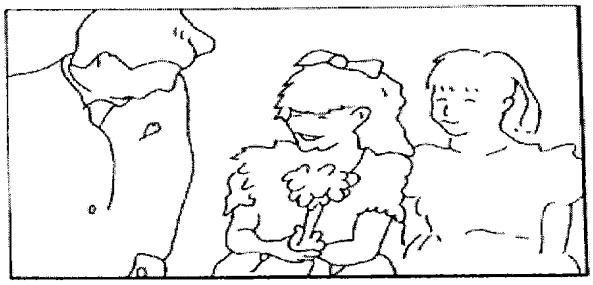

Fig 21(a)

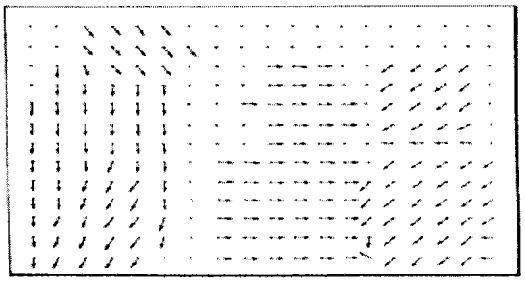

Fig 21(b)

Fig. 21(c) of Sekine shows two histograms representing the optical flow in sizes obtained in the directions X and Y, respectively. Movement vectors detected by the movement vector detecting circuit 330 are accumulated for a given period of time by the memory 332. Then, the accumulated vectors are supplied to the statistical processing circuit 334. The statistical processing circuit 334 prepares the histograms as shown in Fig. 21(c) by ranking these vectors according to the sizes of the X and Y components of each vector. In Fig. 21(c), the upper half of the drawing shows the vector histogram for the X direction and the lower half the vector histogram for the Y direction.

The threshold determining circuit 336 determines threshold values from the shape of these two histograms. In each of the directions X and Y, a small value near a distribution part having a peak value closest to zero in each of the X and Y directions is found, and the position of this value is determined to be the threshold value. Reference symbols Thx1, Thx2, Thy1 and Thy2 denote the threshold values. Figs. 21(c) and (d) are reproduced below for the Office's convenience.

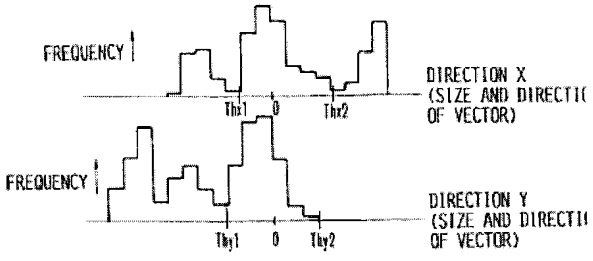

Fig 21(c)

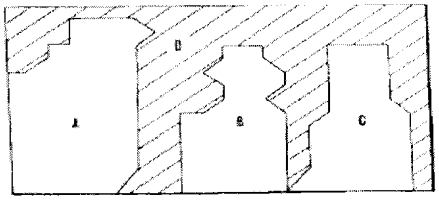

Fig 21(d)

The threshold values are then supplied to the area determining circuit 338. The area determining circuit 338 looks up the blocks which are within the range of the threshold values among the movement vectors stored in the memory 332. Blocks satisfying the conditions set forth in col. 33, line 57-64, of Sekine are identified as "on" and the remaining blocks are identified as "off." The relationship between "on" and "off" blocks is seen in Fig. 21(d). The hatched part indicates the area of "on" blocks, which corresponds with the background area in Fig. 21(a). Likewise, the non-hatched part indicates the area of "off" blocks, which corresponds with the area containing the people in Fig. 21(a). Accordingly, Fig 21(a) illustrates both an object tracing area and an image shake detection area. The image shake quantity detecting circuit 340 computes and obtains a moving quantity from within the "on" area.

In summary, the movement vector in Sekine is obtained by ***accumulating*** differences between the current field and an immediately preceding field ***for a given period of time***. The accumulated movement vectors are supplied to the statistical processing circuit 334. The statistical processing circuit 334 prepares two histograms by ranking the movement vectors according to the sizes of the X and Y components of each vector. Threshold values are determined from the shape of the two histograms. The threshold values are supplied to the area determining circuit 338. Blocks which are within the range of the threshold values among the movement vectors are identified as "on" and the remaining blocks are identified as "off." Finally, the image shake quantity detecting circuit 340 computes and obtains a moving quantity from within the "on" area.

Accordingly, Applicants respectfully submit that "the blocks which are within the threshold" in Sekine do not correspond with the claimed ***predetermined*** motion detecting area. Indeed, "the blocks which are within the threshold" are not predetermined areas, but

rather, are areas calculated based upon each image taken by the user and, therefore, vary with each image.

Further, Applicants respectfully submit that the "movement vector" in Sekine does not correspond with the claimed "motion vector," as the movement vector in Sekine is not calculated based on projective data that is acquired by computing in a predetermined direction pixel values in each of the predetermined motion detecting areas.

Furthermore, Sekine is silent regarding calculating an image correlativity between a basic image area of the first image and each of a plurality of areas of the second image, the areas of the second image ***being along the direction of the motion vector***. Consequently, Sekine does not teach or suggest "a displacement calculator configured to calculate an image correlativity between a basic image area of the first image and each of a plurality of areas of the second image, the areas of the second image being along the direction of the motion vector, and configured to calculate an amount of pixel displacement, based on the image correlativity," as recited in Claim 1.

Moreover, while Sekine may describe lessening the movement of the image plane due to camera shake, as noted on page 5 of the Office Action, Applicants respectfully submit that lessening the movement of the image plane is not what is claimed. Applicants claim "an image output unit configured to ***cut away an area*** from a camera-shake compensation area designated in a second frame, ***the area being produced by displacing an image output area in the camera-shake compensation area***, by the pixel-displacement amount calculated by the displacement calculator, and configured to ***output the area*** as an image for the image output area of the second frame." Indeed, Sekine is silent regarding cutting away an area from a camera-shake compensation area designated in a second frame, the area being produced by displacing an image output area in the camera-shake compensation area and then outputting such an image.

Consequently, for all of the above reasons, Sekine does not disclose or suggest all of the elements in independent Claim 1. M.P.E.P. § 2131 requires for anticipation that each and every feature of the claimed invention must be shown in as complete detail as is contained in the claim. Accordingly, it is respectfully submitted that Sekine does not anticipate independent Claim 1.

Should the present rejection be maintained, Applicants respectfully request that the next Office Communication specifically identify what is considered "the areas of the second image being along the direction of the motion vector" in Sekine, and where Sekine describes to "cut away an area from a camera-shake compensation area designated in a second frame, the area being produced by displacing an image output area in the camera-shake compensation area."

Independent Claims 3 and 5, while differing in scope and statutory class from Claim 1, patentably define over Sekine for substantially the same reasons as Claim 1. Accordingly, it is respectfully submitted that Sekine does not anticipate or render obvious the features of independent Claims 3 and 5. Therefore, independent Claims 3 and 5 (and the claims dependent therefrom) are believed to patentably define over Sekine.

Consequently, in view of the present amendment and in light of the above discussions, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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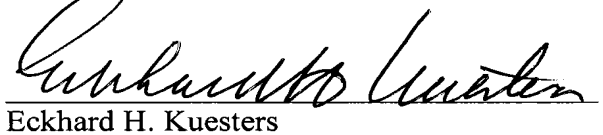
MAIER & NEUSTADT, P.C.



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